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Agile Development Methodology Process



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What is the Methodology?

The methods section describes actions to be taken to investigate a research problem and the rationale for the application of specific procedures or techniques used to identify, select, process, and analyze information applied to understanding the problem, thereby, allowing the reader to critically evaluate a study's overall validity and reliability. The methodology section of a research paper answers two main questions: How was the data collected or generated? And, how was it analyzed? The writing should be direct and precise and always written in the past tense.

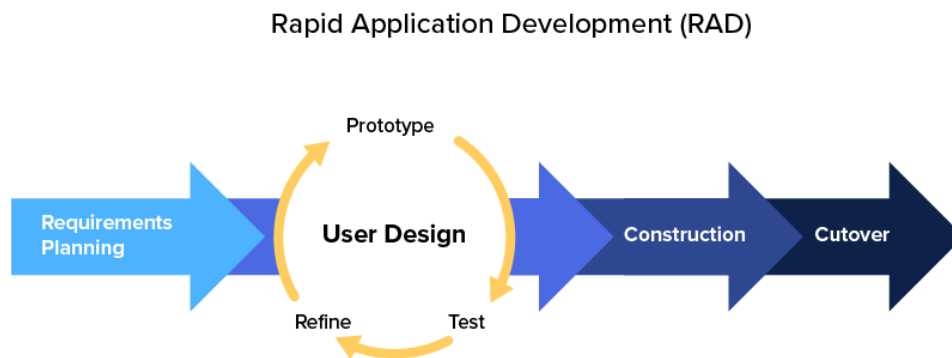
What is the waterfall development methodology?

The traditional waterfall methodology for software development is rapidly losing its popularity as Agile methodology is now being increasingly adopted by companies worldwide for software development. Waterfall basically is a sequential model where software development is segregated into a sequence of pre defined phases including feasibility, planning, design, build, test, production, and support. On the other hand, Agile development methodology follows a linear sequential approach while providing flexibility for changing project requirements, as they occur.

Rapid application development methodology

Rapid Application Development is a development model prioritizes rapid prototyping and quick feedback over long drawn out development and testing cycles. With rapid application development, developers can make multiple

iterations and updates to a software rapidly without needing to start a development schedule from scratch each time. RAD is a development model that came into existence once developers realized the traditional waterfall model of development wasn't very effective. A major flaw in the waterfall model is that once the program is in the testing phase, it becomes difficult to change the core functions and features of the software. This essentially leaves you with software that may or may not fit your evolving requirement.



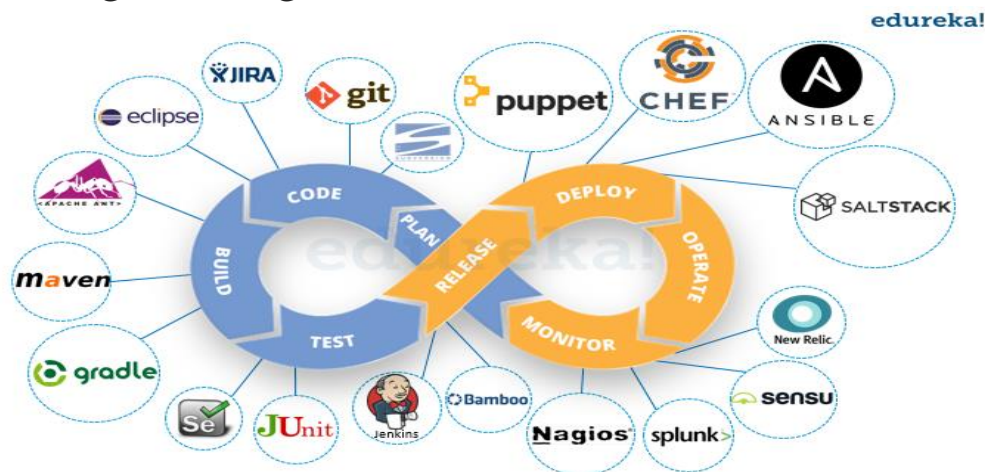
Agile development methodology

When the product creation process is thoroughly planned (as in the waterfall approach), the overall progress of the project can be unclear midway through development. On the contrary, agile methods are focused on responding to changes, so a project's progress must be clear to all team members at any given point in time. To achieve clarity, agile methodologies suggest splitting tasks into short time frames. Known as 'iterations' in the software development process, these short time frames typically take one to four weeks, but encompass during that time all

stages of the typical product development process: planning, gathering requirements, designing, coding, and testing. After each iteration, the team demonstrates the product to its owners and other stakeholders, and only then do they decide what to do during the next iteration. This approach allows greater flexibility, the ability to quickly adapt to changes, and reduces the risk of product failure. Agile development doesn't seek to do away with planning altogether, but rather to plan for the short-term and focus on implementing the most critical features first.

DevOps Deployment Methodology

DevOps is a software development culture and a set of practices aiming at the unification of development (dev) and operations (ops). **DevOps** is based on monitoring of all stages of app development process, from **deployment** and integration to product design, testing, and release.



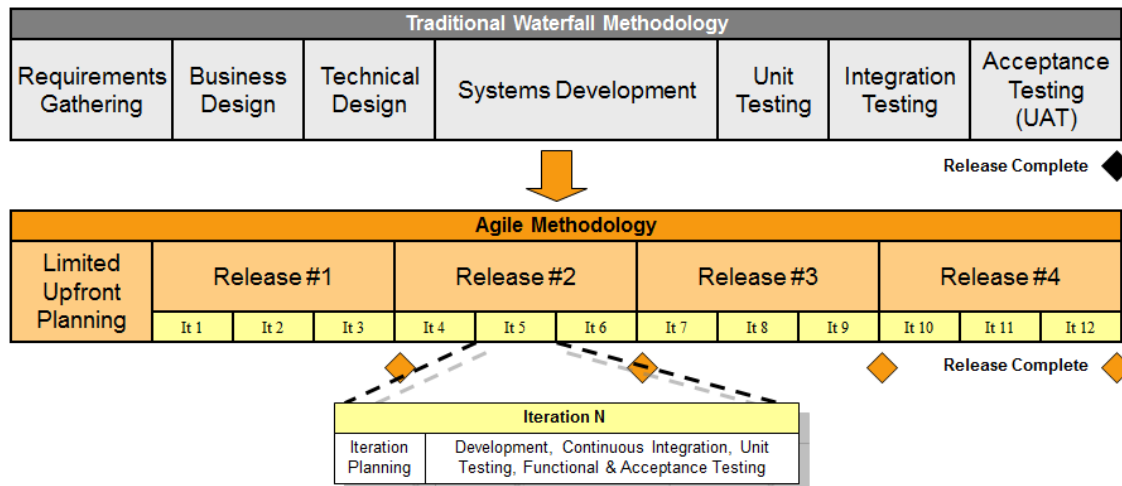
Introduction and Definition of agile methodology

The Agile development movement began in earnest in the 1990s as a rejection of the establishment with its rather staid and

seemingly sluggish development methods known generally by names such as the waterfall model or V-model. These older methods had gained a reputation for missing deadlines, going over budget or failing completely and Agile offered a means to make this a thing of the past. With most revolutions the ideas are rarely new and often promise more than they can actually deliver, and so it has proven with Agile methods. While there are considerable benefits to Agile methods, they are by no means a panacea for past ills and should only be adopted after serious consideration and careful planning. It is critical that the strengths and weaknesses of any method are understood before proceeding, and risks reduced through awareness and preparedness for potential pitfalls. This article aims to provide a quick starting point for understanding the most prominent methods, their individual characteristics and unique offerings.

All Agile methodologies share a set of core ideas which are prescribed from method to method in subtly different ways; iterative and incremental delivery of working code, frequent collaboration with stakeholders, closely working, self-organizing teams, and the ability to embrace change late in the project. Agile methods are shamelessly incestuous, borrowing from each other and using existing ideas in slightly different ways so it becomes very difficult to tell whether a project is following any one method as even the slightest adaptation of any aspect of a process can make it seem more like another.

Fortunately, the majority of the concepts are compatible so that it becomes very easy to use Agile methods like a smorgasbord, picking and choosing parts at will.



Some Agile proponents are so enthusiastic that they fail to recognize that Agile methods have drawbacks. They are not particularly adaptable to larger, enterprise or distributed developments where teams cannot all meet face-to-face and they are less well suited to fixed-price, contractual projects in which functionality is non-negotiable. They are also difficult to apply to embedded systems. Some Agile methods have little up-front design effort which can lead to considerable rework or integration problems. User involvement is also a double edged sword when frequently changing ideas lead to more requirements churn than even Agile processes are prepared for.

The Agile Manifesto provides a set of guidelines for those wishing to become more agile but it is not a set of rules and is does not in of itself define process. This leaves plenty of room for debate as to which methods are Agile and which are not. In this article we shall address those that are generally accepted as Agile followed by those for which argument continues. It should be stressed that while some methods describes themselves as

Agile, or include 'Agile' in their name, that does not necessarily make them so.

Conclusion

Use of methodologies in software development made the development more efficient , cost effective and more upgradeable. However having strength and weakness made each type of methodology to be used for a specific task. Methodologies are generally chosen based on software architecture, purpose, application use and application usability duration. Currently in Bangladesh most of the corporate companies are moving into the DevOps deployment Methodologies as it consumes cost of the application development. But Most of the software firms are using agile methodologies to keep their application project running and risk free.

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